

Translation

PATENT COOPERATION TREATY

PCT/JP2003/006127



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference FMN-1103	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP2003/006127	International filing date ( <i>day/month/year</i> ) 16 May 2003 (16.05.2003)	Priority date ( <i>day/month/year</i> ) 07 June 2002 (07.06.2002)
International Patent Classification (IPC) or national classification and IPC B01D 53/56, 53/94, 53/86, 53/72		
Applicant JAPAN PIONICS CO., LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.  <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of _____ sheets.
3. This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 09 October 2003 (09.10.2003)	Date of completion of this report 25 February 2004 (25.02.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2003/006127

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	3-5, 9-13, 15-17	YES
	Claims	1, 2, 6-8, 14, 18	NO
Inventive step (IS)	Claims	3-5, 9-13, 15-17	YES
	Claims	1, 2, 6-8, 14, 18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

### 2. Citations and explanations

Document 1: JP, 7-185344, A (Nissan Motor Co., Ltd.), 25 July, 1995 (25.07.95)

#### Claims 1, 2, 6-8, 14 and 18

The subject matters of claims 1, 2, 6-8, 14 and 18 do not appear to be novel or to involve an inventive step in view of the invention described in document 1 cited in the ISR. Document 1 describes an exhaust gas cleaning method in which the exhaust gas (containing nitrogen oxides and hydrocarbons) emitted from an internal combustion engine is brought into contact with a catalyst (cleaning agent) with palladium loaded in alumina at 500°C, for reducing the nitrogen oxides and oxidizing the hydrocarbons (see page 3, right column, lines 43-50). Furthermore, the document describes that the said palladium is a mixture consisting of metal palladium and palladium oxide (page 2, right column, lines 29-41). Moreover, the document also describes that the deterioration degree of the catalyst, i.e., the ratio of the said palladium to metal palladium or the treated amount of the exhaust gas is indirectly detected to make the air-fuel ratio leaner (to have more air introduced) (page 4, left column, line 20 to right column, line 9).

#### Claims 3-5

None of the documents cited in the ISR describes that the change in the constitution ratio between a reducing cleaning agent ingredient and an oxidizing cleaning agent ingredient is detected in reference to (1) a sampled gas, (2) the discoloration of a detecting agent, or (3) the change in the electrical resistance of the cleaning agent. This constitution is not considered to be obvious to a person skilled in the art either.

#### Claims 9, 11, 13 and 15

Converting a lower valent metal oxide into a higher valent metal oxide is neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art.

#### Claims 10 and 12

Using a correction gas for reducing a metal oxide is neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art.

#### Claims 16 and 17

Using a metal and a metal oxide other than palladium as a cleaning agent is neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art.